

CUSTOMER NO.: 24498
Ser. No.10/520,721
Office Action dated: 03/17/08
Response dated: 08/11/08

PATENT
PF020085

Remarks/Arguments

35 U.S.C. §103

Claims 1, 2, 6 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Roberts et al. (U.S. Patent No. 6,405,022), in view of Samuels (U.S. Patent No. 2001/0044280), and further in view of Baltus (U.S. Patent No. 6,282,413).

The present invention, as recited by claim 1, describes a VHF adapter for cable network, of the type comprising a first down conversion chain and a second up conversion chain, wherein the first chain comprises a first mixer followed by a second mixer and the second chain a third mixer followed by a fourth and by a fifth mixer, and wherein all the local frequencies necessary for these five mixers are obtained from a very stable single reference oscillator driving a harmonics generator with a first very narrow filter and driving an agile frequency synthesizer.

It is respectfully asserted that none of Roberts, Samuels, or Baltus, alone or in combination, disclose a VHF adapter where the local frequencies necessary for five mixers "are obtained from a very stable single reference oscillator driving a harmonics generator with a first very narrow filter and driving an agile frequency synthesizer," as described in currently amended claim 1.

Roberts et al. teach a radio frequency transceiver, which "includes a radio frequency processor having a modulator/demodulator phase locked loop circuit for generating a second intermediate frequency signal. A heterodyne frequency translation loop circuit receives the second intermediate frequency signal and outputs a first intermediate frequency signal. A transmit mixer receives the first intermediate frequency signal and outputs a transmit radio frequency signal f_0 . A synthesizer circuit is operatively connected to the transmit mixer and the heterodyne frequency translation loop circuit for generating an oscillation signal to the transmit mixer and the heterodyne frequency translation loop circuit. The oscillation signal is divided down by factor N before passing into the heterodyne frequency translation loop circuit." (Roberts Abstract)

The Office Action asserts that Roberts et al. disclose "a VHF adapter comprising a first down conversion chain and a second up conversion chain (figure 1; column 1, lines 45-48), wherein the first chain comprises a first mixer (18 in figure 1) followed by a second mixer (16 in figure 1), and the second chain, a third mixer (14 in figure 1) followed by a

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another mixer i.e. fifth mixer (12 in figure 1). Roberts et al. disclose all of the subject matter as described above except for specifically teaching (1) the second chain (up conversion) has a fourth mixer followed by third mixer and preceding a fifth mixer; (2) all the local frequencies necessary for these five mixers are obtained from a very stable single reference oscillator." (Office Action, pages 2-3)

Roberts et al. do not describe use of a reference oscillator that drives a harmonics generator with a very narrow filter and an agile frequency synthesizer for providing local oscillator frequencies. Thus, it is respectfully submitted that Roberts et al. fail to disclose a VHF adapter where the local frequencies necessary for five mixers "are obtained from a very stable single reference oscillator driving a harmonics generator with a first very narrow filter and driving an agile frequency synthesizer," as described in currently amended claim 1.

Samuels teaches a method and apparatus for "receiving a radio frequency signal and a method and apparatus for transmitting a modulation signal in a multiple channel radio system. The method for receiving the radio frequency signal involves mixing the radio frequency signal with a demodulating signal, tunable in frequency steps greater than the channel spacing of the multiple channel radio system to facilitate rapid frequency adjustments. The resultant intermediate signal is then mixed with another demodulating signal, tunable in relatively smaller frequency steps in order to select the channel containing the radio frequency signal." (Samuels Abstract)

The Office Action asserts that Samuels discloses "a transceiver system with chains of down conversion and up conversion mixers and filters where the up conversion chain has three mixers (710, 713, 717 in figure 7) i.e. third, fourth and fifth one." (Office Action, page 3)

Samuels also does not describe use of a reference oscillator that drives a harmonics generator with a very narrow filter and an agile frequency synthesizer for providing local oscillator frequencies. Thus, it is respectfully submitted that Samuels, like Roberts, fails to disclose a VHF adapter where the local frequencies necessary for five mixers "are obtained from a very stable single reference oscillator driving a harmonics generator with a first very narrow filter and driving an agile frequency synthesizer," as described in currently amended claim 1.

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Baltus teaches a system where "a frequency conversion circuit has a first frequency conversion stage with a first mixer, a second conversion stage with a second mixer, an oscillator, a first frequency divider, and a second frequency divider. The first frequency divider is directly connected between the oscillator and an input of the first mixer. The second frequency divider is coupled between the oscillator and an input of the second mixer. The first and second frequency dividers can either be connected in series or parallel." (Baltus Abstract)

The Office Action asserts that Baltus discloses "a multistage frequency conversion system and method with a single local oscillator where all the frequency conversion stages (figures 2 and 3) have mixers in transceivers for up converting and down-converting (figures 2, 7 and 9; column 3, lines 1-10) the frequencies by mixing the incoming signal with the frequency signal obtained from a stable single or common local oscillator (10 in figure 2 and 3; abstract; column 3, lines 35-38 and 46-56)." (Office Action, pages 3-4)

Baltus also does not describe use of a reference oscillator that drives a harmonics generator with a very narrow filter and an agile frequency synthesizer for providing local oscillator frequencies. Therefore, Baltus, like Roberts and Samuels, fails to disclose a VHF adapter where the local frequencies necessary for five mixers "are obtained from a very stable single reference oscillator driving a harmonics generator with a first very narrow filter and driving an agile frequency synthesizer," as described in currently amended Claim 1.

In view of the above remarks and amendments to the claims, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Roberts, Samuels, or Baltus, alone or in combination, that makes the present invention as claimed in currently amended claim 1 unpatentable, and that claim 1 is therefore allowable. It is also respectfully submitted that currently amended claim 6 is allowable for at least the same reasons as claim 1. Since dependent claims 2 and 7 are dependent from allowable independent claims 1 and 6, it is submitted that they too are allowable for at least the same reasons that their respective independent claims are allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

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Claims 3-5, 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Roberts et al. (U.S. Patent No. 6,405,022), in view of Samuels (U.S. Patent No. 2001/0044280), and further in view of Baltus (U.S. Patent No. 6,282,413), as applied to claims 2 and 7 above, and further in view of Shenoy (U.S. Patent No. 6,310,386).

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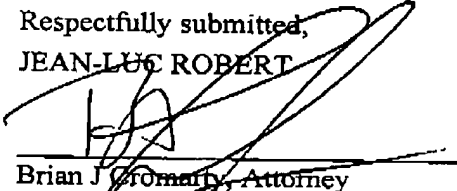
Since dependent claims 3-5, 8, and 9 are dependent from independent claims 1 and 6, which are allowable for the reasons described above, it is submitted that they too are allowable for at least the same reasons that their respective independent claims are allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicants' representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Please charge the \$460 fee for the Two Month Extension, and any other fees that may be due to Deposit Account No. 07-0832.

Respectfully submitted,
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